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ABSTRACT

An experiment was developed under the assumption that learning about word families could help ease the introduction of short vowels to first grade students. The hypothesis was that teaching the word families would increase students' reading vocabulary, in contrast to the learning acquired by students taught only phonetic analysis. The control group was taught the regular phonetic reading while the experimental group's reading was augmented with instruction about 15 word families. A pretest of 100 words was administered to both samples and results were calculated. The posttest was given following five weeks of instruction. Gain scores were computed from the pretest to the posttest. The control group's mean gain of 32.88 was significantly higher than the experimental group's mean gain of 31.09. On the basis of these results, it was concluded that there was little, if any, support for daily instruction in word families. Appendices include the pre- posttest vocabulary test and test results, as well as a list of the word families taught and materials for an instructional game. (Author/HOD)

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Teaching the Word Families Increases the Reading Vocabulary of First Graders in Contrast to First Graders Taught Only Phonic Analysis

by

Cynthia Swajkowski

Presented in Partial Fulfillment of the Requirements for the Master of Arts Degree

May, 1985

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Abstract

This experiment was developed under the assumption that word families could help ease the introduction of short vowels and therefore, the hypothesis was that teaching the word families increases the reading vocabulary of first graders in contrast to first graders taught only phonic analysis.

The control group was taught the regular phonetic reading while the experimental groups reading was augmented with instruction in fifteen word families. A pretest of 100 words was administered to both samples and results calculated. The post-test was given following five weeks of instruction. Gain scores were computed from the pretest to the posttest. The control's mean gain of 32.88 was significantly higher than the experimental's mean gain of 31.09. On the basis of the results of this study, there is little, if any support for daily instruction in word families.

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Acknowledgments

I would like to thank Mrs. Narkowitz for her cooperation during the experiment. I would also like to express my gratitude to my husband Matthew for his patience during this time and I wish to thank Dr. Mazurkiewicz for all his help and guidance during the year and with the writing of this paper.

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Introduction

"The status of phonics in the process of reading at the elementary level has long troubled professional educators (influenced, no doubt by the excellent logical consideration that phonics makes for word reading which, in turn, makes for slow readers) who have felt that instruction in phonics should be minimized if not completely eliminated." (Tiffin, McKinnis,1940)

The above statement was made in 1940. Arguments about the place of phonics and various methods of teaching reading have been going on since colonial days. In 1939, Dolch was researching phonics and word families and the practicality of teaching either. In 1941, Dolch stated that " the chief use of phonics was the sounding out of the polysyllable which the child begins to read in large numbers in grade three and continues to encounter throughout his reading." An earlier study showed that the twenty-four "important" phonograms or word families corresponded to only 11.6 per cent of the 8,509 syllables in a sampling of 14,000 running words in elementary school textbooks; that 6.8 per cent accounted for the endings ed,er, and ing and that only 4.8 per cent corresponded to the other twenty-four. Dolch would agree with the statement "teaching the word families will not increase the reading

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vocabulary of first graders in comparison to first graders taught only phonetics. He suggested that instead of the phonograms being taught, there should be a list of common syllables compiled and then these should be taught to the students. In his conclusions though, he askes the questions "when should they be taught and by what method?" (Dolch,1938)

Nila Banton Smith in her textbook Reading Instruction for Today's Children begins a section entitled "Avoid the Fallacy of Word Families" She stated that the method of teaching the word family or phonograms and then drilling was a mistake. Ms. Smith used Dolch's research as her sole reason for discarding word families. Why discard 4.8 per cent of the phonograms that are useful just because the previous method of teaching word families was incorrect?

If as Piaget stated, the preoperational child is actively engaged in the development of new categories, of knowledge and the modification and extension of existing categories, then we should be utilizing this in the classroom. Introducing new vocabulary that belong to one-word families, allowing the brighter students to make the generalizations and produce rules for that family would be in agreement with what Brunner stated in 1956

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"science and commonsense inquiry alike do not discolor the ways in which events are grouped in the world: they invent ways of grouping. Categories do not exist objectively in the world to be directly taught or indirectly learned, rather they are constructed by the perceiver out of his experiences"

Allowing the brighter students to fomulate their own rules would be fine if all students were of high average or gifted mental ability. They could be left alone to discover that the words top,mop and pop all end in op and that op is pronounced the same way in each word. The classroom, though, is heterogenous and slower readers have enough trouble trying to remember all the sounds that a, e and i have without having to sound out op each time they encounter it.

In the process of developing a reading vocabulary, the use of word families would be in natural agreement with a child's natural habit of categorizating new information. Smith (1975) suggested that in the development of word knowledge, children's category development is so powerful and autonomous an activity that it goes on in spite of instructional methods that might seek to limit it.

Instead of ignoring the natural habit of categor-

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izating new information, teachers should be incorporating the word families into the reading programs. First graders who are taught through a strict phonetic analysis reading program have a difficult problem with short vowels. The word families would help to ease the introduction of short vowels, develop confidence in using short vowels and therefore increase their reading vocabulary.

Children have been exposed to word families as early as infants when mother sang songs, children recited nursery rhymes and the Kindergarten teacher developed rhyming words. The instruction of structured word families in addition to the normal phonetic analysis method would be working with what has been learned in the past or heard in the past.

Hypothesis

For the purpose of this study, it is hypothesized that teaching the word families will not increase the reading vocabulary of an experimental sample of first graders in comparison with a control sample taught only phonetics.

Definitions

1. word family- a group of words, such as mat, hat, sat or cat containing identical phonemic elements.

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Assumptions and Limitations

Assumptions

It is assumed that both first grade classes will be reading grade level textbooks by Dec.

It is assumed that the pre-test and post - test of reading vocabulary words will be conducted under optimum conditions and that the tests are valid.

It is assumed that both teachers are of equal teaching ability.

Limitations

There are two individuals instructing the groups.

The students all have previous experience with word families eg: nursery rhymnes.

The students tested are two separate classes.

Procedure

During the experiment, the controlled group was taught the regular reading program in Open Court which was a phonetic analysis approach.

The experimental group received their regular instruction in the Open Court program augmented with instruction in the word families.

Before the word families were introduced, the students were given a pre-test consisting of 100 vocabulary words.

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Each word family was introduced during a regular reading lesson. One word from the family was introduced. The word family was singled out and the students were asked to add a letter to make a new word. Each new word that was "discovered" for the particular family was listed on the board under it. As it was being written, the students were also asked to give a definition of the word or use it in a sentence to insure that each word meaning was known, eg: vat. When asked for a definition, a student gave the sentence "Batman was put into a vat of freezing water by Penquin." When questioned further, the student gave a description "it was a real big pot."

The word family was then written in colored chalk on a portable board that remained unchanged for the remainer of the experiment. The list of words were then reread by the class and spelled so that the teacher could write the words under the colored word family. After reading the words twice, the students copied the words in list form to be taken home and hopefully, they were read again to whoever would listen.

In addition to adding new family words, the past word families were reviewed. The list remained on the board throughout the experiment. As each successive word family was added, the students used the chart of vocabulary

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words and word families illustrated in color to aid them in their reading, spelling and writing. Two board games were also developed and used by the students during their free time to reenforce the basic word families and to allow the students to develop new words on their own.

At the completion of 15 wor families, the students were given the post test and calculations were made to determine whether there was a gain in vocabulary. The control group was also administered the post test at the same time to insure that both groups were at the same maturity level (varied as it was) and the same instructional level in Open Court.

Results

Table I

Mean, Standard Deviation and t Test of the Pretest Scores of the Control and Experimental Sample

	Mean	Standard Deviation	t Test
experimental	33:09	21:71	18. 157
control	27.13	17.92	

As shown in Table I, there was a highly significant difference between the mean scores of the pretest of the control sample's mean of 27.12 as compared to the experi-

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mental sample's mean of 33.09. Thus at the outset of the study, the samples were found to be dissimilar in vocabulary.

Table II

Mean, Standard Deviation and t Test of the Posttest of the Control Group and the Experimental Group

	Mean	Standard Deviation	t Test
experimental	64.18	25.29	12.73
control	60.	21.88	

Table II indicates that there was a significant difderence between the experimental sample's mean score of 64.18 and the control sample's mean score of 60. Table II when compared to Table I also indicates that there was a substantial gain in vocabulary during this period for both samples.

Table III

Mean Gain, Standard Deviation and t Test of the Experimental and Control Sample

	Mean	Standard Deviation	t Test
experimental	31.09	14.78	5.43
control	32.88	11.33	

Table III shows that the control sample's mean gain

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of 32.88 was significantly higher than the experimental sample's mean gain of 31.09 as shown by the t of 5.43 which was significant below the .01 level.

Conclusions

There was no significant increase in reading vocabulary as a result of using word families in conjunction with a phonics program. While there was a general increase in reading vocabulary for both samples, this was probably due to the phonics program and individual maturation of the subjects during the five week period.

On the basis of the results of this study, there is little, if any support for daily instruction in word families. The experiment demonstrated that daily instruction in word families did not increase the students reading vocabulary but that concentrated instruction using a phonics program did increase pupils reading vocabulary.

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Word Family Research and Literature

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"Vocabulary size", said Freyd, Baron (1981) is generally considered a good predictor of school success. We have found that encouraging children to develop their own awareness of the ways written language communicates is an effective method of teaching reading.

"Child developmentalists (Brunner, Oliver and Greenfield, 1966) agree that the child is not a passive imitator or consumer of Pre-formed categories, but an active builder of categories of similarity and difference, engaging in this activity to satisfy his intellectual need for order and meaningful reduncancy."

"Children entering the concrete operations stage, may be the most active users of categories because their cognitive schemata are still being developed. They may not have as many schemata as adults, but the ones they have established are dynamic because they are constantly being created, used and modified. Almost all knowledge the child possesses at the concrete operations stage (corresponding to the primary grade years) about language and himself has been discovered and internalized using assimilation and accomodation. These are active processes, brought about by the child's innate drive to seek out, explore and bring order to his world." (Sinclair-deZart, 1973)

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This need for order, categorization and reduncancy is satisfied with word families. Basal reading programs have begun to incorporate writing with reading. Instruction in word families could also be utilized to increase pupils writing ability since they could become acquinted with a wide range of morphomes with which to build new words. The approach is basically organized around categories. If children's category development is so powerful and autonomous an activity that it goes on in spite of instructional methods to limit it, then why do we fight it? Use it!

As recently as 1981, research has centered on word families, also referred to as morphomes. In response to the need for a logical basis on which to build effective vocabulary instruction for disadvantaged readers, the University of Oregon initiated a project using morphographs. Morphographs were developed by Dixon in 1977 because of his dissatisfication with morphemes as lingustic building blocks for instruction in the language arts.

Dixon examined many of the word families and developed them into morphographs. For the family ill for example he used the word still as his morphograph. The reason for his revised format was given as these morphographs comprised the correct spelling and contributed to

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the correct spelling of that word. "For example, the word orientation is comprised of three morphographs: orient, ate, and ion. Each of these morphographs has a meaning and contributes that meaning to the meaning of the word as a whole. Orient means "to adjust to new surroundings", ate means "to make or act" and ion means "the state or quality of". Together the three morphographs come close to an adequate definition for the entire word:" the quality of acting to adjust to new surroundings" (Anderson-Inman, Dixon, Becker 1981) All words, though do not fit this definition. Many have only a historical link with their morphographs.

Morphographs are also spelling units. They should give the correct spelling units. When combining morphographs, there are structural rules which word families do not possess. The result of all this is that a very base of information has been developed for a more scientific approach to word family teaching.

In the text Morphographs: An Alphabetical List With Exemplars the areas of vocabulary development, linguistic study and pronunciation practice were discussed. Methods of applying the morphographs to these skills was also described. For the high school student, morphographs would be the word families. For the first grader, word

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the meaning of the word.

The University of Oregon adopted the concept of Dixon's morphographs and began compiling a list of all morphographs comprising the 25,782 high frequency words representative of a high school senior. " The goals of the research project were first, to identify a set of high frequency words known by the high school senior, second to analyze this set of words in ways that would facilitate the design of effective programs for vocabulary instruction and third, to develop a comprehension plan for vocabulary development for use in public schools." (Anderson-Inman, Dixon, Becker, 1981)

The researchers set to work to analze the 25,782 words both semanically and structurally. They hoped to identify a " core group of words with the set from which all other words could be derived" and also to teach the meanings of a "set of highly frequent and structually regular word parts", then combine these word-parts to teach the meanings of a larger set of words. Dixon concentrated on the meanings of the core words which is a higher skill than the simple word families.

A group of letters can be considered a morphograph if it contributes meaning to a word or group of words and if its structural representation will combine to form

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families would be used for instruction in vocabulary development and pronunciation and also in spelling as Dixon pointed out morphographs would be for the more advanced students.

As early as 1967, Venezky suggested a system of intermediate spelling units, morpho-phonemic units, which he related to sound. Gleitman and Rosin (1973) proposed categories of syllables which they related to pronunciation. Chomsky and Hale(1968) proposed yet another method related to word families. " In this view, word stems are stored in the readers psychological dictionary or lexicon. " The lexicon contains both word stems and inflectional affixes, so that many words encountered in text can be related to a single stem with varying combinations of other stems and/or affixes" (Gillet,Temple 1978)

G. Duffy and G. Sherman in their textbook Systematic Reading Instruction devoted a section in word analysis to word families and noted that "it gives the beginning reader the ability to recognize the regular short-vowel spelling patterns used in English" (Duffy, Sherman 1972) The method provided the reader with a problem solving technique to use when trying to determine the pronunciation of an unknown word. The student would evenually be able to use variations of this problem-solving method,

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eg: substituing ending sounds and medial vowels. Duffy and Sherman state " this is a crucial analyizing skill for the learner". This is in contrast to Nila Banton Smith"s statement "to avoid the Fallacy of Word Families". This was probably in response to the methods used. "According to former methods of teaching phonics, the children memorized the family names and were then drilled in reading lists of words. Pupils went through the ritual of reading these words repeatedly until they knew them "by heart". (Smith 1955) Rebecca Pollard's "Synethetic Method" which was published in 1889, set the stage for this extreme emphasis upon phonic drill as a preparation for reading". Make reading of the first importance. As in music, let there be scales to practice; drills in articulation, a thorough preparation for reading before the simplest sentence is attempted". (Smith,1955) The Pollard method was the forerunner of several reading systems which heavily stressed phonics as an approach to reading. It was at this time also that lists of family words were organized and used as the backbone of the program of phonics. The heavy emphasis on word family drills may have been used in past reading programs (which was a mistake) but that is no reason to eliminate a skill entirely as Ms. Smith has done.

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Even in phonics programs, word families have been utilized. DeBoer and Dallman in The Teaching of Reading and Mazurkieqicz in Teaching about Phonics enlist the word families to increase vocabulary and supply practice in making substitutions of consonants in words. Of course they are not stated as word families.

In the phonics program, the individual letters in the word family are taught, then combined to form the first word. Initial transfer practice is then established as the students learn the new consonant sound and develop new words. DeBoer and Dallman use the discovery method as the teacher is instructed to ask " What word that we know looks the same as this word except for the beginning letter?" Whether the method of instruction is anaylic phonics where the individual phomemes are learned first amd then combined to form a word or structural phonics where the whole word is learned and then taken apart into individual sounds , the opportunity to allow the beginning reader to discover new words should be taken. As the primary students run through the alphabet, try each letter in front of the word family, giggle over the nonsense words and happy about creating a sensible word, they are experiencing success and enjoyment with their new fcund ability. This is what instructors should be

striving for: enjoyment with the printed word, not confusion and anxiety.

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Appendices

Test Results

	experimental		raw scores	control	
	pre	post		pre	post
1.	24	68		30	77
2.	24	56		29	76
3.	21	62		20	57
4.	21	60		47	70
5.	87	94		60	90
6.	70	90		12	39
7.	37	84		41	78
8.	62	87		7	23
9.	55	93		3	44
10.	56	87		28	58
11.	19	37		17	59
12.	19	54		41	64
13.	34	84		53	79
14.	38	60		32	87
15.	43	82		1	18
16.	22	49		13	41
17.	26	52			
18.	12	69			
19.	34	84			
20.	1	2			
21.	1	9			
22.	22	49			

Word Families Taught

1. un
2. ight
3. op
4. ill
5. et
6. all
7. at
8. ow
9. ack
10. ought
11. an
12. ag
13. ate
14. it
15. ell

The Rules for Word Family Games

Two board games were developed to help reinforce the word families. There was a set of fifteen cards each printed with one word family. They were placed on the board and a dice was thrown. The student picked up a card and moved the number of steps that the dice showed. On this step, he then had to make a word combining his card with the letter in the step. If it made a word, he kept the card and threw the dice again. If not, he lost the card and his turn. The winner was the student that collected the most cards.

One board had only singular consonants printed on it. The second board contained blends printed on the board steps. Since there were less blends the second board also contained steps with directions eg: Go back 3 steps, skip to space CL, and Go back to Start.

To check answers, there was a list on the back of each word family card.

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Vocabulary Test

Name _____ Pre Date _____ Post Date _____

slo son p.	Pre	Po		Pr	Po		Pr	Po		Pr	Po		Pr	Pc
see			under			happen			last			cold		
look			was			farmer			its					
mother			what			river			like					
little			bump			lunch			off					
here			live			sheep			might					
can			very			hope			our					
want			puppy			forest			my					
come			dark			stars			put					
one			first			heavy			round					
baby			wish			station			say					
three			basket			Dolch again			tell					
run			food			and			show					
jump			hill			as			their					
down			along			because			soon					
is			2nd game			enough			us					
up			hide			done			told					
make			grass			cut			warm					
ball			across			bring			turn					
help			around			four			were					
play			breakfast			give			while					
1st. with			field			has			you					
friends			large			got			across					
came			better			her			always					
horse			suddenly			hold			before					
ride						if			blue					

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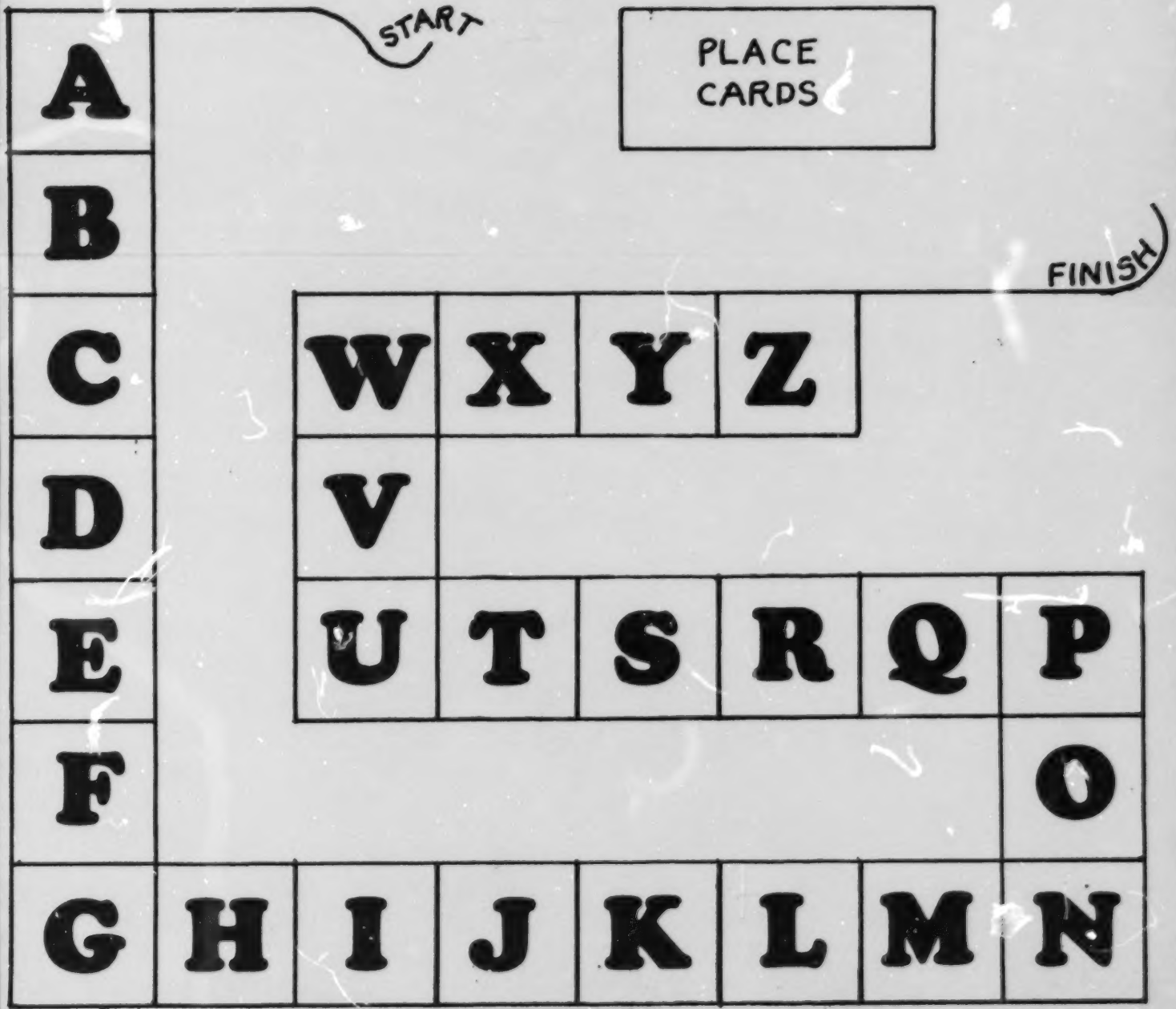
START
PLACE CARDS
FINISH
A
B
C
D
E
F
G
W X Y Z
V
U T S R Q P
O
H I J K L M N

January 5, 1985

Mr. G. Brown
Elementary Supervisor
Carteret High School
Carteret, New Jersey

Dear Mr. Brown;

I am presently completing graduate work towards my Masters degree. My thesis work will involve my class and Mrs. Narkowitz's first grade class.

The purpose of the experiment is to determine if the additional instruction in word families will improve the reading and writing vocabulary of my students.

The experiment will continue for five weeks.

If you have any questions, please contact me.

Thank you for your cooperation.

Sincerely,

Cynthia Swajkowski

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Dear Parents;

I am presently completing graduate work towards my Masters degree. My thesis work will involve my class and Mrs. Narkowitz's class.

The purpose of the experiment is to determine if the additional instruction in word families will improve the reading and writing vocabulary of my students.

The experiment will continue for five weeks.

If you have any questions, please contact me.

Thank you for your cooperation.

Sincerely,

Mrs. C, Swajkowski

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